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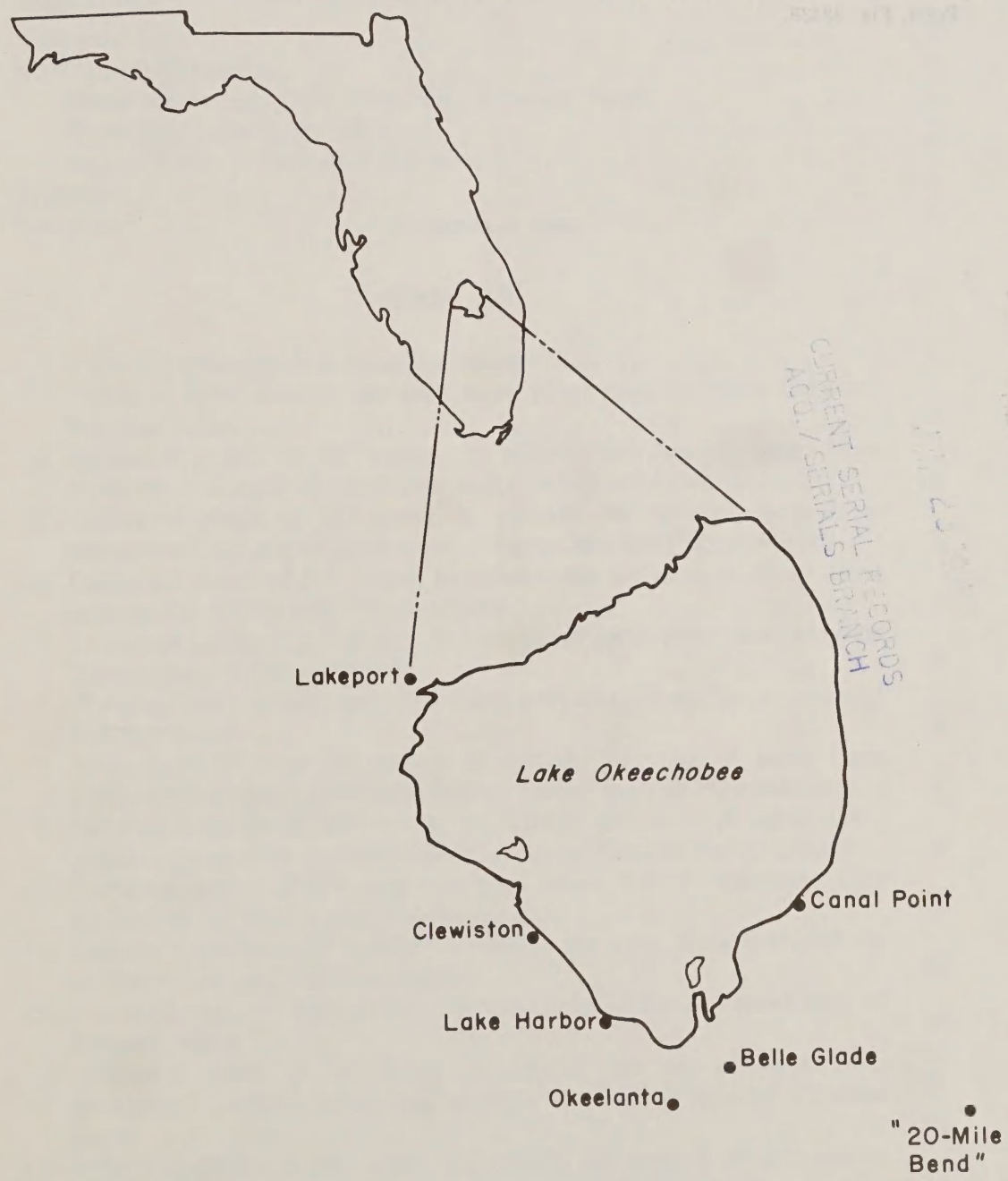
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Sugarcane Variety Tests in Florida

1978-79 Harvest Season



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Sugarcane Variety Tests in Florida

1978-79 Harvest Season

By Edwin R. Rice¹

ABSTRACT

Twenty-nine varieties of sugarcane, *Saccharum officinarum* L., were grown in replicated tests and harvested at eight locations representing four soil types (Terra Ceia muck, Pahokee muck, Torry muck, and Pompano fine sand). Cane and sugar yields were compared with those of CP 63-588, the leading commercial variety in Florida. In the plant-cane tests, CP 74-2005, a new high-tonnage variety, produced more sugar per acre than any other variety in the average of six experiments on Terra Ceia and Pahokee muck and produced high yields of cane and sugar per acre on both Torry muck and Pompano fine sand. CP 74-1241 surpassed all other varieties in yield of sugar per acre on Torry muck. CP 73-1547 and CP 73-1172 were the dominant varieties in the first-stubble tests. CP 73-1547 averaged more cane and sugar per acre than any other variety on Terra Ceia and Pahokee muck. CP 73-1172 exceeded all other varieties in yields of cane and sugar per acre on Torry muck. CP 72-1210 and CP 72-1312 were outstanding in the second-stubble tests. CP 72-1210 ranked first in indicated yields of sugar per ton of cane and sugar per acre on Terra Ceia and Torry muck. CP 72-1312 ranked first in yields of cane and sugar per acre on Pompano fine sand and produced high yields of cane and sugar per acre on Terra Ceia, Pahokee, and Torry muck. Index terms: Florida, Pahokee muck, Pompano fine sand, *Saccharum officinarum* L., sugarcane varieties, sugar yields, sugar cane yields, Terra Ceia muck, Torry muck.

INTRODUCTION

Varietal selection is one of the many factors involved in the successful production of sugarcane, *Saccharum officinarum* L., in Florida. Varieties must be adapted to various soil types and growing conditions and should mature at different times to provide optimum sucrose yields throughout the long harvest season, which normally extends from late October to early April. Most of the sugarcane is grown in areas normally subjected to freezing and damaging temperatures.

An increasing proportion of our sugarcane research is being directed toward testing and developing varieties adapted to these areas.

The 1978-79 harvest season was considerably milder than the two previous seasons. Although a record number of acres were grown in Florida (Kidder and Rice 1978), sugar production did not set a record because a large amount of seed cane was used to replant the acreage damaged by the freezes of the 1976-77 and 1977-78 seasons. The mild winter of 1978-79 could result in an increase in sugar production for the 1979-80 season.

Only three test fields were damaged by freezing temperatures between January 3 and February 10, 1979. The lowest recorded temperature was 28° F for less than 1 hour at Okeelanta on February 2, 1979. Recorders east of Canal Point

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and south of Clewiston showed minimum temperatures of 29° F and 30° F, respectively, on that date, but only for a few minutes (Bloodworth 1979). Slight damage occurred only on young plant cane.

TEST PROCEDURES

Replicated test plantings of 29 varieties were harvested at 8 locations. Five test fields were on Terra Ceia muck on the properties of Gulf and Western Food Products Co. at Okeelanta; Hatton Bros., Inc., east of Canal Point; Wedgworth Farms, Inc., east of Belle Glade; A. F. Saunders, Inc., south of Clewiston; and S. D. Corp., near 20-Mile Bend in Palm Beach County. A test field on Pahokee muck, similar to Terra Ceia muck, was located on A. Duda and Sons farm, east of Belle Glade. One test field on Pompano fine sand was at Lykes Bros. farm, near Lakeport in Glades County. A test field on Torry muck was on the Beardsley farm near Lake Harbor. This area, commonly known as warm land because of its nearness to Lake Okeechobee, seldom suffers from freeze damage because of the warming effect of the lake.

Data from numerous observations and preliminary tests had been studied, and the most promising varieties for commercial production were planted in replicated experiments. CP 63-588, the leading variety in Florida since 1975 (Kidder and Rice 1978), was used as a check in all experiments. In each of 22 tests, plots of one sixty-second acre were arranged in a randomized-block design with 4 replications.

The margins of each experiment were buffered to reduce mechanical damage and border effects, but individual four-row plots were not buffered. Two lines of seed cane were planted in each furrow. Fertilizing, cultivating, controlling of insects and rodents, burning, loading, and hauling were done according to established plantation practices for adjacent commercial fields.

To evaluate maturing quality, 10 stalks were taken at random from the unburned standing cane in 2 of the 4 replications of each variety at each location between October 25 and November 2, 1978. The samples were milled, the crusher juice was analyzed for Brix and sucrose, and indicated yields of sugar per ton of cane were determined. To calculate sugar per acre from these preharvest data, we assumed that yield of cane per acre was equal to the actual yield obtained at harvest.

All replicated tests were harvested between December 13, 1978, and March 22, 1979. After each plot had been burned, all cane was cut and piled by hand and then weighed with a tractor-mounted weighing device. Fifteen full-length stalks were taken at random from each replication and transported to the Science and Education Administration's Laboratory at Canal Point for weighing, milling, and crusher juice analysis.

All values for sugar per ton of cane and sugar per acre in this report are indicated (theoretical) yields calculated in accordance with a simplification of the Winter-Carp-Geerligs formula (Arceneaux 1935); an explanation of the formula may be found in a previous publication (Rice and Hebert 1972). Variety correction factors (table 1) used in the formula were obtained from milling studies at Canal Point.

Although indicated sugar yields reported herein may not be obtained by all sugar factories, these yields are representative of average values that can be obtained in Florida, and more important, they are valid for comparing varieties with different milling qualities and sucrose reduction factors.

RESULTS AND DISCUSSION

Tables 2-6 give the results of plant-cane experiments on Terra Ceia and Pahokee muck; tables 7-11 give the results of first-stubble experiments on Terra Ceia and Pahokee muck; and tables 12-16 give the results of second-stubble experiments on Terra Ceia and Pahokee muck. The results of plant-cane and stubble experiments on Torry muck are shown in tables 17-19. Tables 20-22 give the results of plant-cane and stubble experiments on Pompano fine sand.

EXPERIMENTS ON TERRA CEIA AND PAHOKEE MUCK

CP 74-2005, a new high-yielding variety, was outstanding in the plant-cane tests. This variety averaged more sugar per acre than any other variety in both preharvest and harvest tests (tables 4 and 6). It produced 1,445 pounds of sugar per acre more than CP 63-588 in the average of six plant-cane tests at harvest.

CP 74-2047, a new high-tonnage variety, produced high yields of cane and sugar per acre. It produced an average of 57.53 tons of cane per acre in plant-cane tests and thus surpassed all other

varieties in this category (table 2). It was surpassed only by CP 74-2005 in average yields of sugar per acre at harvest (table 6).

CP 73-1547, a promising, high-tonnage, strong-stubbling variety, was the outstanding variety in the first-stubble tests. It averaged more cane and sugar per acre than any other variety in both preharvest and harvest tests (tables 7, 9, and 11). It produced 1,967 pounds of sugar per acre more than CP 63-588 in the average of six first-stubble tests. CP 73-1547 was also the outstanding variety in the plant-cane tests of 1977-78 (Rice 1978).

CP 73-2109, a high-sucrose variety, surpassed all other varieties in average indicated yields of sugar per ton of cane in both preharvest and harvest samples, averaging 108 and 110 percent of CP 63-588, respectively, in these categories (tables 8 and 10).

CP 72-1210, a very promising, high-sucrose, high-tonnage variety, was outstanding in the second-stubble tests. It surpassed all other varieties in average indicated yields of sugar per ton of cane and sugar per acre at both preharvest and harvest (tables 13-16). This variety was also the outstanding variety in plant-cane and first-stubble tests during the two previous harvest seasons (Rice 1977, 1978).

CP 72-1312, a vigorous, high-tonnage variety, produced an average of 50.06 tons of cane per acre in second-stubble tests and thus surpassed all other varieties in this category (table 12). It was surpassed only by CP 72-1210 in average yields of sugar per acre at both preharvest and harvest (tables 14 and 16).

CP 63-588 was harvested in plant-cane, first-stubble, and second-stubble experiments. This variety yielded 208.2 and 217.1 pounds of sugar per ton of cane, respectively, in the average of preharvest and harvest samples from four second-stubble experiments (tables 13 and 15). CP 72-1210 was the only variety to significantly exceed CP 63-588 in sugar per ton of cane at harvest.

EXPERIMENTS ON TORRY MUCK

Plant-cane, first-stubble, and second-stubble plantings were harvested on Torry muck at the Beardsley farm. CP 74-1241, a high-sucrose, high-tonnage variety, produced 15,496 and 17,601 pounds of sugar per acre on preharvest and harvest dates, respectively, and was not surpassed by any other variety in the above cate-

gories (table 17). It was also outstanding in indicated yield of sugar per ton of cane at preharvest.

CP 74-2005, a vigorous, high-tonnage variety, produced high yields of sugar per ton of cane and sugar per acre at harvest and was not significantly surpassed by any other variety in the above categories.

CP 73-1172 was the outstanding variety in the first-stubble experiment and thus surpassed all other varieties in yields of cane and sugar per acre on both preharvest and harvest dates (table 18).

CP 72-1210, a very promising, high-sucrose, high-tonnage variety, produced high yields of cane and sugar in the second-stubble test. It outyielded all other varieties in indicated yields of sugar per ton of cane and sugar per acre at both preharvest and harvest (table 19).

CP 72-1312 produced high yields of cane and sugar per acre and was exceeded only by CP 72-1210 in yield of sugar per acre at harvest. CP 72-1312 produced 5,676 and 5,797 more pounds of sugar per acre than CP 63-588 at preharvest and harvest, respectively.

CP 63-588 was harvested in plant-cane, first-stubble, and second-stubble tests. In the second-stubble test, it yielded 252.6 pounds of sugar per ton of cane and was not exceeded by any other variety by a significant margin (table 19).

EXPERIMENTS ON POMPANO FINE SAND

CP 74-2005 was the outstanding variety in the plant-cane experiment and exceeded all other varieties in yields of cane and sugar per acre on both preharvest and harvest dates (table 20). It surpassed CP 63-588 by 26 and 20 percent in yield of sugar per acre, respectively, in the above harvest categories.

CP 73-1547 was the superior variety in the first-stubble test. It yielded 46.21 tons of cane and 11,673 pounds of sugar per acre on the December 13 harvest and thus surpassed all other varieties by significant margins (table 21). It also produced more sugar per acre at preharvest on October 30 than any other variety. CP 73-1547 was also outstanding in plant-cane yield during the 1977-78 harvest season (Rice 1978).

CP 72-1312 was the outstanding variety in the second-stubble test. It produced more cane and sugar per acre than any other variety in the December 13 harvest (table 22).

CP 72-1370 produced 224 pounds of sugar per

ton of cane and 10,644 pounds of sugar per acre at preharvest on October 30 and thus surpassed all other varieties in these categories.

CP 63-588 produced high indicated yields of sugar per ton of cane in the plant-cane and stubble experiments at the Lykes Bros. farm. It yielded 252.6 and 246.8 pounds of sugar per ton of cane, respectively, in plant-cane and second-stubble harvests and was not surpassed by any other variety by significant differences (tables 20 and 22).

SUMMARY

The plant-cane series contains three varieties of particular interest, namely, CP 74-2005, CP 74-2047, and CP 74-1241. CP 74-2005 produced more sugar per acre than any other variety at both preharvest and harvest in the average of six experiments on Terra Ceia and Pahokee muck. It also produced high yields of cane and sugar per acre on both Torry muck and Pompano fine sand. CP 74-2047 averaged more tons of cane per acre than any other variety on Terra Ceia, Pahokee, and Torry muck. CP 74-1241 surpassed all other varieties in yields of sugar per acre on Torry muck. It also produced high yields of sugar per ton of cane on Terra Ceia and Pahokee muck.

CP 73-1547 and CP 73-1172 were the outstanding varieties in the first-stubble experiments. CP 73-1547 produced more cane and sugar per acre than any other variety in the average of six experiments on Terra Ceia and Pahokee muck. It was also the outstanding variety on Pompano fine sand and produced high yields of

cane and sugar per acre on Torry muck. CP 73-1172 exceeded all other varieties in yields of cane and sugar per acre on Torry muck.

CP 72-1210 and CP 72-1312 were very outstanding in the second-stubble experiments. CP 72-1210 ranked first in average indicated yields of sugar per ton of cane and sugar per acre on Terra Ceia and Pahokee muck. It also yielded more sugar per ton of cane and sugar per acre than any other variety on Torry muck. CP 72-1312 ranked first in yields of cane and sugar per acre on Pompano fine sand. It also produced high yields of cane and sugar per acre on Terra Ceia, Pahokee, and Torry muck.

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Table 1.— Variety correction factors and parentage¹

Variety	VCF	Parentage		
CP 63-588	1.00	Cl 54-191	x	CP 57-120
CP 70-1133 .....	.98	67 P 6		CP 56-63
CP 71-2050 .....	.94	CP 62-374	x	CP 56-59
CP 72-1210 .....	.96	CP 65-357	x	CP 56-63
CP 72-1215 .....	.96	CP 65-357	x	CP 56-63
CP 72-1271 .....	.96	CP 65-357	x	CP 63-588
CP 72-1312 .....	.96	CP 65-357	x	CP 56-63
CP 72-1370 .....	.98	CP 65-357	x	CP 56-63
CP 72-1497 .....	.94	CP 68-1115	x	CP 63-306
				or
				CP 56-63
CP 72-2079 .....	.96	CP 62-374	x	CP 63-588
CP 72-2083 .....	.96	CP 62-374	x	CP 63-588
CP 72-2086 .....	.96	CP 62-374	x	CP 63-588
CP 73-1030	1.00	CP 66-1079	x	CP 56-63
CP 73-1172 .....	.94	CP 65-357	x	Cl 54-1910
CP 73-1225 .....	.94	CP 68-1067	x	CP 56-59
CP 73-1311 .....	.94	CP 52-68	x	CP 63-588
CP 73-1547 .....	.98	CP 66-1043	x	CP 56-63
CP 73-2040 .....	.96	CP 68-1067	x	CP 63-306
CP 73-2109 .....	.98	CP 68-1154	x	CP 63-588
CP 74-1094 .....	.90	CP 66-1079	x	CP 68-1022
CP 74-1114 .....	.96	CP 68-1154	x	CP 63-588
CP 74-1119 .....	.98	CP 68-1154	x	CP 63-588
CP 74-1188	1.00	CP 52-68	x	CP 63-588
CP 74-1241	1.00	CP 65-357	x	CP 59-50
CP 74-1263 .....	.94	CP 65-357	x	CP 68-1022
CP 74-2005 .....	.98	CP 66-1043	x	CP 63-588
CP 74-2013 .....	.96	CP 69-1059	x	CP 68-1026
CP 74-2047 .....	.96	CP 68-1145	x	CP 56-63
CP 74-2054 .....	.96	CP 65-357	x	CP 56-63

¹Variety correction factors (VCF) were used to calculate the theoretical yield of 96° sugar per ton of cane according to Arceneaux's simplification of the Winter-Carp-Geerligs formula.

Table 2.—Yields of cane, in tons per acre, from plant cane on Terra Ceia and Pahokee muck

Variety	Average yield by farm and harvest date ¹						Average yield, all farms
	Okeelanta 1/30/79	Saunders 2/5/79	S.D. Corp. 2/8/79	Duda 2/8/79	Hatton Bros. 2/16/79	Wedgworth 3/22/79	
CP 74-2047	236.89	46.07	73.78	70.39	257.19	60.84	57.53
CP 74-2005	42.96	56.33	69.24	70.43	44.11	53.90	56.16
CP 63-588	36.91	54.00	62.30	65.94	39.94	56.16	52.54
CP 74-2013	39.36	43.92	58.21	61.93	38.27	55.36	49.51
CP 74-1263	37.15	37.39	59.58	59.44	48.27	48.46	48.38
CP 74-2054	30.56	41.47	60.96	60.46	41.16	54.72	48.22
CP 73-1030	36.90	41.56	58.17	56.92	39.03	55.26	47.97
CP 74-1114	325.74	35.72	66.68	55.56	42.96	350.73	46.23
CP 74-1094	38.44	38.70	51.67	57.07	44.55	41.29	45.29
CP 74-1188	29.12	45.42	54.05	54.88	38.82	46.86	44.86
CP 74-1241	29.57	47.06	53.98	51.24	38.77	47.95	44.76
CP 74-1119	330.49	44.10	243.59	244.09	233.84	340.01	39.35
LSD: ⁴							
5% level	3.95	4.31	6.92	6.00	9.40	4.52	2.42
1% level	5.30	5.80	9.30	8.06	12.63	6.07	3.20

¹ Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.² Rat damage.³ Severe borer damage.⁴ LSD = Least significant difference between any 2 values.

Table 3.—Indicated yields of 96° sugar, in pounds per ton of cane, from preharvest samples of plant cane on Terra Ceia and Pahokee muck

Variety	Average yield by farm and sampling date ¹						Average yield, all farms
	Hatton Bros. 10/25/78	Saunders 10/25/78	Okeelanta 10/26/78	S.D. Corp. 10/27/78	Duda 11/2/78	Wedgworth 11/2/78	
CP 74-2013	208.1	214.6	191.2	209.6	199.3	191.9	202.4
CP 74-1241	184.9	196.9	202.2	191.0	202.4	186.6	194.0
CP 74-1263	181.4	208.4	202.8	177.8	203.1	189.4	193.8
CP 73-1030	172.4	213.0	197.5	172.2	186.6	196.8	189.8
CP 74-1114	195.1	201.4	180.5	183.0	193.0	179.3	188.7
CP 74-1119	188.7	210.0	181.1	197.5	156.7	188.0	187.0
CP 74-1188	182.9	190.1	192.1	174.1	205.6	177.4	187.0
CP 74-2054	183.8	189.4	188.5	182.7	183.8	183.0	185.2
CP 74-2005	173.4	202.9	184.3	173.0	191.9	176.6	183.7
CP 63-588	170.1	180.2	195.6	167.1	171.7	188.0	178.8
CP 74-1094	158.9	179.5	181.0	165.1	182.0	177.2	174.0
CP 74-2047	154.2	169.6	175.5	164.3	157.3	160.1	163.5

¹ Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

Table 4.—Indicated yields of 96° sugar, in pounds per acre of cane, from preharvest samples of plant cane on Terra Ceia and Pahokee muck ¹

Variety	Average yield by farm and sampling date ²						Average yield, all farms
	Hatton Bros. 10/25/78	Saunders 10/25/78	Okeelanta 10/26/78	S.D. Corp. 10/27/78	Duda 11/2/78	Wedgworth 11/2/78	
CP 74-2005	7,649	11,429	7,918	11,978	13,516	9,519	10,335
CP 74-2013	7,964	9,425	7,526	12,201	12,343	10,624	10,014
CP 74-2047	8,819	7,813	6,474	12,122	11,072	9,740	9,340
CP 63-588	6,794	9,731	7,220	10,410	11,322	10,558	9,339
CP 74-1263	8,756	7,792	7,534	10,593	12,072	9,178	9,321
CP 73-1030	6,729	8,852	7,288	10,017	10,621	10,875	9,064
CP 74-2054	7,565	7,854	5,760	11,137	11,112	10,014	8,907
CP 74-1114	8,381	7,194	4,646	12,202	10,723	9,096	8,707
CP 74-1241	7,168	9,266	5,979	10,310	10,371	8,947	8,674
CP 74-1188	7,100	8,634	5,594	9,410	11,283	8,313	8,389
CP 74-1094	7,079	6,947	6,958	8,531	10,387	7,316	7,870
CP 74-1119	6,386	9,261	5,522	8,609	6,909	7,522	7,368

¹ Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

² Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

Table 5.—Indicated yields of 96° sugar, in pounds per ton of cane, from plant cane on Terra Ceia and Pahokee muck

Variety	Average yield by farm and sampling date ¹						Average yield, all farms
	Okeelanta 1/30/79	Saunders 2/5/79	S.D. Corp. 2/8/79	Duda 2/8/79	Hatton Bros. 2/16/79	Wedgworth 3/22/79	
CP 74-1241	197.1	240.2	217.3	242.9	183.4	238.7	219.9
CP 73-1030	216.3	242.6	207.3	218.9	197.3	216.6	216.5
CP 74-2005	196.3	234.6	216.0	245.0	175.2	228.9	216.0
CP 74-2013	216.2	231.1	211.6	225.5	189.6	209.2	213.9
CP 74-1119	195.8	234.0	216.4	240.9	183.4	196.7	211.2
CP 74-1188	197.5	228.5	204.0	235.3	176.6	225.3	211.2
CP 63-588	191.0	218.0	212.0	215.5	171.9	216.4	204.1
CP 74-1263	189.8	217.2	194.4	225.9	176.9	202.8	201.2
CP 74-2054	173.8	219.7	194.0	222.1	161.6	215.0	197.7
CP 74-1114	183.0	209.2	192.6	224.7	166.4	198.8	195.8
CP 74-2047	178.6	195.2	199.8	212.2	170.4	203.2	193.2
CP 74-1094	175.7	186.9	176.9	201.4	151.8	197.7	181.7
LSD: ²							
5% level	23.0	17.5	14.4	18.8	19.9	17.8	7.4
1% level	30.8	23.5	19.4	25.3	26.8	23.9	9.8

¹ Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

² LSD = Least significant difference between any 2 values.

Table 6.—Indicated yields of 96° sugar, in pounds per acre, from plant cane on Terra Ceia and Pahokee muck

Variety	Average yield by farm and harvest date						Average yield, all farms
	Okeelanta 1/30/79	Saunders 2/5/79	S.D. Corp. 2/8/79	Duda 2/8/79	Hatton Bros. 2/16/79	Wedgworth 3/22/79	
CP 74-2005	8,433	13,215	14,956	17,255	7,728	12,338	12,321
CP 74-2047	6,588	8,993	14,741	14,937	9,745	12,363	11,228
CP 63-588	7,050	11,772	13,208	14,210	6,866	12,153	10,876
CP 74-2013	8,510	10,150	12,317	13,965	7,256	11,581	10,630
CP 73-1030	7,981	10,082	12,059	12,460	7,701	11,969	10,375
CP 74-1241	5,828	11,304	11,730	12,446	7,110	11,446	9,977
CP 74-1263	7,051	8,121	11,582	13,427	8,539	9,828	9,758
CP 74-2054	5,311	9,111	11,826	13,428	6,651	11,765	9,682
CP 74-1188	5,751	10,378	11,026	12,913	6,856	10,558	9,580
CP 74-1114	4,710	7,473	12,842	12,484	7,148	10,085	9,124
CP 74-1119	5,970	10,319	9,433	10,622	6,206	7,870	8,403
CP 74-1094	6,754	7,233	9,140	11,494	6,763	8,163	8,258
LSD: ²							
5% level	776	862	1,098	1,228	1,179	933	423
1% level	1,043	1,158	1,474	1,650	1,584	1,253	558

¹Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

²LSD = Least significant difference between any 2 values.

Table 7.—Yields of cane, in tons per acre, from first stubble on Terra Ceia and Pahokee muck

Variety	Average yield by farm and harvest date ¹						Average yield, all farms
	Hatton Bros. 1/23/79	Okeelanta 2/1/79	Saunders 2/5/79	Duda 2/6/79	S.D. Corp. 2/8/79	Wedgworth 3/22/79	
CP 73-1547	56.86	46.30	52.12	65.93	65.95	56.23	57.23
CP 73-1172	54.14	41.56	43.71	53.50	62.13	52.44	51.25
CP 73-1311	46.95	40.41	41.14	59.77	53.65	56.47	49.74
CP 72-2086	46.80	38.61	40.21	55.33	53.90	55.05	48.32
CP 63-588	32.10	41.96	39.66	54.23	52.14	52.30	45.40
CP 73-1225	40.05	39.35	37.00	50.90	52.58	47.35	44.54
CP 72-2079	41.66	33.11	36.56	48.44	48.32	49.44	42.92
CP 72-2083	33.83	39.98	32.52	53.06	47.02	49.34	42.62
CP 73-2109	46.56	230.90	37.98	231.70	47.22	36.32	38.45
CP 73-2040	34.43	226.10	35.39	42.75	40.79	41.56	36.84
LSD: ³							
5% level	8.35	5.09	4.82	5.81	9.11	3.94	2.55
1% level	11.28	6.87	6.51	7.84	12.30	5.32	3.36

¹Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

²Rat damage.

³LSD = Least significant difference between any 2 values.

Table 8.—Indicated yields of 96° sugar, in pounds per ton of cane, from preharvest samples of first stubble on Terra Ceia and Pahokee muck

Variety	Average yield by farm and sampling date ¹						Average yield, all farms
	Hatton Bros. 10/25/78	Saunders 10/25/78	Okeelanta 10/26/78	S.D. Corp. 10/27/78	Duda 11/2/78	Wedgworth 11/2/78	
CP 73-2109	202.2	238.2	215.2	209.0	226.0	228.0	219.8
CP 73-1311	201.0	207.0	213.9	213.4	224.4	200.2	210.0
CP 72-2086	198.4	204.9	206.9	191.9	226.7	223.9	208.8
CP 63-588	186.8	213.0	208.0	194.3	211.0	210.3	203.9
CP 72-2079	200.5	194.4	194.8	198.6	225.7	209.5	203.9
CP 72-2083	180.8	199.3	213.6	175.8	213.1	205.3	198.0
CP 73-1547	190.7	198.6	186.4	189.2	217.2	203.3	197.6
CP 73-2040	180.3	204.3	200.5	186.9	219.1	194.4	197.6
CP 73-1172	181.5	199.8	190.7	179.6	209.5	208.5	194.9
CP 73-1225	176.5	194.4	213.7	188.2	209.5	186.0	194.7

¹Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

Table 9.—Indicated yields of 96° sugar, in pounds per acre of cane, from preharvest samples of first stubble on Terra Ceia and Pahokee muck¹

Variety	Average yield by farm and sampling date ²						Average yield, all farms
	Hatton Bros. 10/25/78	Saunders 10/25/78	Okeelanta 10/26/78	S.D. Corp. 10/27/78	Duda 11/2/78	Wedgworth 11/2/78	
CP 73-1547	10,843	10,351	8,630	12,478	14,320	11,432	11,342
CP 73-1311	9,437	8,516	8,644	11,449	13,412	11,305	10,460
CP 72-2086	9,285	8,239	7,988	10,343	12,543	12,326	10,121
CP 73-1172	9,826	8,733	7,925	11,158	11,208	10,934	9,964
CP 63-588	5,996	8,448	8,728	10,131	11,442	10,999	9,291
CP 72-2079	8,353	7,107	6,450	9,596	10,933	10,358	8,800
CP 73-1225	7,069	7,193	8,409	9,895	10,664	8,807	8,673
CP 72-2083	6,116	6,481	8,540	8,266	11,307	10,130	8,473
CP 73-2109	9,414	9,047	6,650	9,869	7,164	8,281	8,404
CP 73-2040	6,208	7,230	5,233	7,624	9,366	8,079	7,290

¹Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

²Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

Table 10. — Indicated yields of 96° sugar, in pounds per ton of cane, from first stubble on Terra Ceia and Pahokee muck

Variety	Average yield by farm and harvest date ¹						Average yield, all farms
	Hatton Bros. 1/23/79	Okeelanta 2/1/79	Saunders 2/5/79	Duda 2/6/79	S.D. Corp. 2/8/79	Wedgworth 3/22/79	
CP 73-2109	254.3	261.2	274.4	269.5	253.7	268.7	263.6
CP 72-2083	215.2	253.2	230.8	267.3	236.2	250.2	242.2
CP 72-2086	235.4	235.4	234.2	260.1	238.8	238.2	240.4
CP 73-1311	239.4	233.2	230.0	261.4	233.2	245.4	240.4
CP 63-588	229.0	234.7	229.7	260.1	238.5	239.7	238.6
CP 72-2079	233.4	234.0	230.2	260.6	234.2	223.2	235.9
CP 73-2040	226.2	235.0	233.6	246.7	229.7	231.5	233.8
CP 73-1547	213.8	243.0	223.8	235.6	212.3	223.8	225.4
CP 73-1172	211.3	218.5	203.3	236.2	201.8	231.3	217.1
CP 73-1225	213.2	211.6	216.4	224.1	206.9	214.5	214.4
LSD: ²							
5% level	25.0	25.1	9.9	12.7	11.8	14.8	7.0
1% level	(³)	(³)	13.4	17.2	16.0	20.0	9.2

¹ Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.² LSD = Least significant difference between any 2 values.³ Not significant.

Table 11. — Indicated yields of 96° sugar, in pounds per acre, from first stubble on Terra Ceia and Pahokee muck

Variety	Average yield by farm and harvest date ¹						Average yield, all farms
	Hatton Bros. 1/23/79	Okeelanta 2/1/79	Saunders 2/5/79	Duda 2/6/79	S.D. Corp. 2/8/79	Wedgworth 3/22/79	
CP 73-1547	12,157	11,251	11,664	15,533	14,001	12,584	12,865
CP 73-1311	11,240	9,424	9,462	15,624	12,511	13,858	12,020
CP 72-2086	11,017	9,089	9,417	14,391	12,871	13,113	11,650
CP 73-1172	11,440	9,081	8,886	12,637	12,538	12,129	11,118
CP 63-588	7,351	9,848	9,110	14,105	12,435	12,536	10,898
CP 72-2083	7,280	10,123	7,506	14,183	11,106	12,345	10,424
CP 72-2079	9,723	7,748	8,416	12,623	11,316	11,035	10,144
CP 73-2109	11,840	8,071	10,422	8,543	11,980	9,759	10,102
CP 73-1225	8,539	8,326	8,007	11,407	10,879	10,156	9,552
CP 73-2040	7,788	6,134	8,267	10,546	9,369	9,621	8,621
LSD: ²							
5% level	1,434	1,068	662	979	1,136	1,312	436
1% level	1,937	1,442	893	1,323	1,534	1,772	576

¹ Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.² LSD = Least significant difference between any 2 values.

Table 12.—Yields of cane, in tons per acre, from second stubble on Terra Ceia and Pahokee muck

Variety	Average yield by farm and harvest date ¹				Average yield, all farms
	Duda 11/16/78	Okeelanta 11/27/78	Hatton Bros. 12/8/78	Wedgworth 3/22/79	
CP 72-1312	55.53	38.67	53.71	52.32	50.06
CP 72-1210	54.14	44.28	47.82	50.60	49.21
CP 70-1133 .....	.....	.....	40.08	49.23	² 44.66
CP 72-1497	39.45	40.37	47.14	43.11	42.52
CP 72-1271	43.92	33.86	41.66	42.01	40.36
CP 72-1215	48.77	33.69	³ 35.79	41.99	40.06
CP 72-1370	31.74	37.86	41.76	38.10	37.36
CP 63-588	29.81	31.50	33.10	39.06	33.37
LSD: ⁴					
5% level	8.36	(⁵)	9.73	3.70	3.74
1% level	11.45	(⁵)	13.25	5.04	4.93

¹Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

²Average of 2 locations.

³Rat damage.

⁴LSD= Least significant difference between any 2 values.

⁵Not significant.

Table 13.—Indicated yields of 96° sugar, in pounds per ton of cane, from preharvest samples of second stubble on Terra Ceia and Pahokee muck

Variety	Average yield by farm and sampling date ¹				Average yield, all farms
	Hatton Bros. 10/25/78	Okeelanta 10/26/78	Duda 11/2/78	Wedgworth 11/2/78	
CP 72-1210	170.3	246.4	206.8	225.8	212.3
CP 72-1271	176.0	227.6	206.8	232.8	210.8
CP 63-588	195.8	222.8	205.4	208.7	208.2
CP 72-1370	160.3	223.9	208.0	233.8	206.5
CP 72-1497	166.0	214.7	191.2	218.0	197.5
CP 72-1215	201.9	219.8	170.9	188.8	195.4
CP 72-1312	171.5	230.9	183.3	187.0	193.2
CP 70-1133	162.2	.....	.....	196.0	² 179.1

¹ Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

² Average of 2 locations.

Table 14.— Indicated yields of 96° sugar, in pounds per acre, from preharvest samples of second stubble on Terra Ceia and Pahokee muck¹

Variety	Average yield by farm and sampling date ²				Average yield, all farms
	Hatton Bros. 10/25/78	Okeelanta 10/26/78	Duda 11/2/78	Wedgworth 11/2/78	
CP 72-1210	8,144	10,910	11,196	11,425	10,419
CP 72-1312	9,211	8,929	10,179	9,783	9,526
CP 72-1271	7,332	7,706	9,083	9,780	8,475
CP 72-1497	7,825	8,667	7,543	9,398	8,358
CP 70-1133	6,501	.....	.....	9,649	³ 8,075
CP 72-1215	7,226	7,405	8,335	7,928	7,724
CP 72-1370	6,694	8,477	6,602	8,908	7,670
CP 63-588	6,481	7,018	6,123	8,152	6,944

¹ Yields are based on early sucrose analysis; assume that early yields of cane per acre are equal to actual yields at harvest.

² Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

³ Average of 2 locations.

Table 15.— Indicated yields of 96° sugar, in pounds per ton of cane, from second stubble on Terra Ceia and Pahokee muck

Variety	Average yield by farm and harvest date ¹				Average yield, all farms
	Duda 11/16/78	Okeelanta 11/27/78	Hatton Bros. 12/8/78	Wedgworth 3/22/79	
CP 72-1210	205.6	255.2	210.3	252.7	231.0
CP 63-588	203.7	246.8	183.4	234.4	217.1
CP 72-1271	202.3	238.4	184.9	236.3	215.5
CP 72-1312	206.8	229.6	183.6	228.4	212.1
CP 72-1215	188.9	227.4	188.5	230.4	208.8
CP 72-1370	207.0	242.4	163.5	213.8	206.7
CP 72-1497	193.2	240.4	187.6	188.6	202.4
CP 70-1133 .....	.....	.....	181.9	208.2	² 195.1
LSD: ³					
5% level	(⁴)	14.8	(⁴)	24.6	10.4
1% level	(⁴)	(⁴)	(⁴)	33.5	13.7

¹ Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

² Average of 2 locations.

³ LSD = Least significant difference between any 2 values.

⁴ Not significant.

Table 16.—Indicated yields of 96° sugar, in pounds per acre, from second stubble on Terra Ceia and Pahokee muck

Variety	Average yield by farm and harvest date ¹				Average yield, all farms
	Duda 11/16/78	Okeelanta 11/27/78	Hatton Bros. 12/8/78	Wedgworth 3/22/79	
CP 72-1210	11,131	11,300	10,056	12,787	11,318
CP 72-1312	11,484	8,879	9,861	11,950	10,544
CP 70-1133 .....	.....	.....	7,290	10,250	28,770
CP 72-1271	8,885	8,072	7,703	9,927	8,647
CP 72-1497	7,622	9,705	8,843	8,130	8,575
CP 72-1215	9,213	7,661	6,746	9,674	8,324
CP 72-1370	6,570	9,177	6,828	8,146	7,680
CP 63-588	6,072	7,774	6,070	9,156	7,268
LSD: ³					
5% level	1,160	1,043	1,408	954	589
1% level	1,589	(⁴)	1,916	1,298	777

¹Terra Ceia muck at all locations except Duda; soil at Duda is Pahokee muck.

²Average of 2 locations.

³LSD = Least significant difference between any 2 values.

⁴Not significant.

Table 17.—Yields of cane and sugar from plant cane on Torry muck

Variety	Cane harvest 1/23/79 (tons/acre)	96° sugar at preharvest 10/31/78		96° sugar at harvest 1/23/79	
		Pounds/ ton of cane	Pounds/ acre of cane ¹	Pounds/ ton of cane	Pounds/ acre of cane
CP 74-1241	69.24	223.8	15,496	254.2	17,601
CP 74-2005	64.05	191.5	12,266	259.8	16,640
CP 74-2047	74.35	171.7	12,766	220.0	16,357
CP 74-2054	67.82	196.3	13,313	240.4	16,304
CP 74-1114	69.25	223.1	15,450	235.3	16,294
CP 74-1119	60.33	222.3	13,411	262.1	15,812
CP 73-1030	58.26	177.2	10,324	263.6	15,357
CP 74-1263	56.84	202.3	11,499	269.0	15,290
CP 63-588	64.23	161.6	10,380	232.5	14,933
CP 74-1188	55.58	206.6	11,483	242.4	13,472
CP 74-2013	48.30	201.8	9,747	251.4	12,143
CP 74-1094	54.71	179.1	9,798	217.1	11,878
LSD: ²					
5% level	6.23	(³)	(³)	24.9	1,535
1% level	8.37	(³)	(³)	33.5	2,062

¹Yields are based on early sucrose analysis; assume that early yields are equal to actual yields at harvest.

²LSD = Least significant difference between any 2 values.

³Not determined.

Table 18.—Yields of cane and sugar from first stubble on Torry muck

Variety	Cane harvest 1/23/79 (tons/acre)	96° sugar at preharvest 10/31/78		96° sugar at harvest 1/23/79	
		Pounds/ ton of cane	Pounds/ acre of cane ¹	Pounds/ ton of cane	Pounds/ acre of cane
CP 73-1172.....	88.40	221.6	19,589	231.9	20,500
CP 73-1547.....	77.59	218.6	16,961	254.1	19,716
CP 72-2086.....	72.11	231.3	16,679	253.7	18,294
CP 73-1311.....	65.32	220.8	14,423	272.2	17,780
CP 73-2040.....	69.81	222.4	15,526	253.4	17,690
CP 73-2109.....	64.00	234.1	14,982	272.5	17,440
CP 72-2083.....	63.13	209.2	13,207	274.4	17,323
CP 63-588.....	67.96	220.3	14,972	242.9	16,507
CP 73-1225.....	68.94	202.3	13,946	230.2	15,870
CP 72-2079.....	58.29	223.0	12,999	264.0	15,388
LSD: ²					
5% level.....	7.47	(3)	(3)	24.7	1,806
1% level.....	10.09	(3)	(3)	33.4	2,439

¹ Yields are based on early sucrose analysis; assume that early yields are equal to actual yields at harvest.

² LSD = Least significant difference between any 2 values.

³ Not determined.

Table 19.—Yields of cane and sugar from second stubble on Torry muck

Variety	Cane harvest 1/23/79 (tons/acre)	96° sugar at preharvest 10/31/78		96° sugar at harvest 1/23/79	
		Pounds/ ton of cane	Pounds/ acre of cane ¹	Pounds/ ton of cane	Pounds/ acre of cane
CP 72-1210.....	70.69	233.4	16,499	270.3	19,108
CP 72-1312.....	69.32	208.6	14,460	242.4	16,803
CP 72-1497.....	71.03	208.3	14,796	235.6	16,735
CP 70-1133.....	64.66	193.6	12,518	235.5	15,227
CP 72-1271.....	54.14	217.1	11,754	259.4	14,044
CP 72-1215.....	54.52	195.0	10,631	236.4	12,888
CP 72-1370.....	49.01	206.6	10,125	257.0	12,596
CP 63-588.....	43.57	201.6	8,784	252.6	11,006
LSD: ²					
5% level.....	13.06	(3)	(3)	22.2	2,073
1% level.....	17.78	(3)	(3)	(4)	2,821

¹ Yields are based on early sucrose analysis; assume that early yields are equal to actual yields at harvest.

² LSD = Least significant difference between any 2 values.

³ Not determined.

⁴ Not significant.

Table 20.—Yields of cane and sugar from plant cane on Pompano fine sand

Variety	Cane harvest 12/13/78 (tons/acre)	96° sugar at preharvest 10/30/78		96° sugar at harvest 12/13/78	
		Pounds/ ton of cane	Pounds/ acre of cane ¹	Pounds/ ton of cane	Pounds/ acre of cane
CP 74-2005	61.61	220.8	13,603	251.9	15,520
CP 73-1030	53.56	218.2	11,687	253.0	13,551
CP 74-1119	53.25	228.3	12,157	251.0	13,366
CP 74-2013	51.75	231.8	11,996	254.9	13,191
CP 63-588	51.37	210.0	10,788	252.6	12,976
CP 74-2047	55.27	200.2	11,065	227.8	12,590
CP 74-1114	51.34	202.8	10,412	232.9	11,957
CP 74-1188	44.88	225.5	10,120	259.8	11,660
CP 74-1241	47.72	204.6	9,764	242.0	11,548
CP 74-2054	46.48	216.8	10,077	247.8	11,518
CP 74-1263	43.02	224.1	9,641	256.6	11,039
CP 74-1094	46.20	192.0	8,870	223.4	10,321
LSD: ²					
5% level	6.02	(³)	(³)	19.2	1,201
1% level	8.09	(³)	(³)	25.8	1,613

¹ Yields are based on early sucrose analysis; assume that early yields are equal to actual yields at harvest.

² LSD = Least significant difference between any 2 values.

³ Not determined.

Table 21.—Yields of cane and sugar from first stubble on Pompano fine sand

Variety	Cane harvest 12/13/78 (tons/acre)	96° sugar at preharvest 10/30/78		96° sugar at harvest 12/13/78	
		Pounds/ ton of cane	Pounds/ acre of cane ¹	Pounds/ ton of cane	Pounds/ acre of cane
CP 73-1547	46.21	213.9	9,884	252.6	11,673
CP 73-1311	39.26	216.8	8,512	255.8	10,043
CP 72-2086	38.22	219.8	8,401	249.4	9,532
CP 72-2083	34.82	219.6	7,646	258.8	9,011
CP 72-2079	35.08	224.8	7,886	254.0	8,910
CP 73-2109	31.88	247.3	7,884	277.6	8,850
CP 73-1172	35.05	221.0	7,746	239.9	8,408
CP 73-1225	33.80	220.3	7,446	235.2	7,950
CP 73-2040	31.70	214.9	6,812	241.9	7,668
CP 63-588	30.16	224.1	6,759	251.9	7,597
LSD: ²					
5% level	5.01	(³)	(³)	16.9	871
1% level	6.76	(³)	(³)	22.8	1,177

¹ Yields are based on early sucrose analysis; assume that early yields are equal to actual yields at harvest.

² LSD = Least significant difference between any 2 values.

³ Not determined.

Table 22.—Yields of cane and sugar from second stubble on Pompano fine sand

Variety	Cane harvest 12/13/78 (tons/acre)	96° sugar at preharvest 10/30/78		96° sugar at harvest 12/13/78	
		Pounds/ ton of cane	Pounds/ acre of cane ¹	Pounds/ ton of cane	Pounds/ acre of cane
CP 72-1312	52.23	201.2	10,509	251.5	13,136
CP 72-1370	47.52	224.0	10,644	250.6	11,908
CP 70-1133	47.71	212.7	10,148	247.7	11,818
CP 72-1271	40.70	221.9	9,031	231.4	9,418
CP 72-1497	39.44	205.7	8,113	232.8	9,182
CP 72-1215	38.48	197.9	7,615	231.7	8,916
CP 72-1210	30.62	220.1	6,739	245.4	7,514
CP 63-588	29.73	196.0	5,827	246.8	7,337
CP 71-2050	30.77	164.8	5,071	221.5	6,816
LSD: ²					
5% level	10.53	(³)	(³)	18.1	1,346
1% level	14.26	(³)	(³)	(⁴)	1,824

¹ Yields are based on early sucrose analysis; assume that early yields are equal to actual yields at harvest.

² LSD = Least significant difference between any 2 values.

³ Not determined.

⁴ Not significant.

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